



#7/Dec.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

April 8, 2002

4/24/02
Smith

In re the application of:

James R. Del Signore II et al.

Docket No. 230 P 051

Filed: January 29, 2001

Art Unit: 2816

Ser. No. 09/770,478

Examiner: Quan Tra

For: Current Inrush Limiting Circuit

Confirmation No. 6823

RECEIVED
APR 18 2002
TC-2800 MAIL ROOM

DECLARATION

I, Randolph Bullock, declare as follows:

1. I have a BS degree in Electrical Engineering from Rochester Institute of Technology, awarded 1979.
2. I have worked as an Electrical Engineer at Axiohm Transaction Solutions, Inc. ("Axiohm"), the Assignee of the present application, for the past 4 years, and am a co-inventor on the present invention.
3. Prior to my employment at Axiohm, I have been engaged in the daily design of electronic controls for products in commercial and consumer markets for companies including Xerox (US Patent Nos. 4423478, 4670647), Burroughs, Eastman Kodak, Fisher-Price Inc continuously since June of 1979.
4. During my employment at Axiohm, I have worked on, among other things, developing circuits for controlling various aspects of thermal printers used in point of sale systems.

- a. I consider myself as having at least the level of skill of one of ordinary skill in the art to which my invention pertains.
5. A characteristic of thermal printers used in point of sale systems is that they require large on-board bulk capacitance to supply high peak current demands of the thermal print head.
6. One problem with this characteristic is that there is an initial current rush that could harm the power supply, load or other circuit components if not controlled. Hence, there is a need for circuits to control the inrush current.
7. I have read U.S. Patent Nos. 5,828,245 (Brambilla et al.), and 5,818,212 (Min et al.), and would not consider them to be at all relevant to the present invention as each involves engineering problems not in the least associated with or relevant to designing circuits used in applications for limiting the inrush current, let alone current ultimately being supplied to a bulk capacitive load. Thus, in designing the circuit of the present application, I would not consult the teachings of either the Brambilla or Min patents as both solve engineering problems that are not at all relevant or related to the engineering problems associated with the application of an inrush current limiting circuit that is the subject of the present application.
8. Regarding Brambilla specifically, this patent teaches how to control the power draw in the pre-driver stage of a half-bridge DMOS circuit by switching off the power to the amplifier stages after the transition is complete. Nowhere in the Brambilla patent is the problem of controlling the inrush current sent to a bulk capacitive load mentioned. One reason for this is that the load on the

Brambilla circuit is an inductive, instead of a capacitive load, and the power to the amplifier stage is turned off after the transition is complete (which is the engineering problem to which Brambilla is directed – power savings); in the present invention power to the amplifier stage must always remain on, otherwise the whole point of the invention is defeated. As one skilled in the art, I would not consider the Brambilla patent as disclosing anything relevant to one skilled in the art to which the present invention pertains.

9. Regarding Min, this reference is of even less relevance than Brambilla. Min teaches how to generate voltage for a memory device. While it employs a voltage divider, so do literally thousands of other circuits that are known in the various electrical arts. Learning how to generate voltage in a memory device involves entirely different engineering concerns, and hence, has absolutely no bearing on how to control the inrush current ultimately being applied to a bulk capacitive load. Thus, Min is not a source I, as one skilled in the art, would rely on when trying to develop a circuit of the type disclosed and claimed in the present application.

All statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application and any registration resulting therefrom.

Dated: April 8, 2002

Randolph Bullock
Randolph Bullock